

# Overview of Demand Response and Other New Programs to Enhance Market Efficiency and Reliability

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March 14, 2000

# Five Programs to Enhance Demand Response, Reliability, and Market Efficiency

- ¥ CalPX's Expanded Block Forward Energy Market
- ¥ CalPX's Ancillary Service and Replacement Reserve Market
- ¥ CAISO's Aggregate Load Program for participation in Ancillary Service and Replacement Reserve Markets
- ¥ CAISO's Emergency Demand Relief Program
- ¥ Pacific Gas and Electric and Southern California Edison's Demand Reduction Programs in the Day-Ahead California Power Exchange Markets

# 1. CalPX s Expanded Block Forward Energy Market

- ¥ Enables trading of energy products in addition to current product that is offered from 6 a.m. to 10 p.m., six days per week:
  - Super Peak (weekday afternoons)
  - Shoulder Peak (morning and evenings)
- ¥ Three additional delivery points
  - California Oregon Border
  - 2 points in the Southwest: Palo Verde and Mead
- ¥ Potential Benefits:
  - Reduction of price risk
  - Better match of forward market to expected load conditions

## 2. CalPX's Ancillary Service and Replacement Reserve Market

- ¥ Enables trading of ancillary services in forward market
- ¥ Also, enables CalPX participants to self-provide (that is, provide for their own needs) ancillary services
- ¥ Potential Benefits:
  - Reduction of price risk in ancillary services markets
  - Possibly expanding willing of generators to participate in these markets

### 3. CAISO's Aggregate Load Program for Participation in Ancillary Service Markets

- ¥ Enables smaller loads to participate in some ancillary service markets
  - Metering requirements are relaxed
- ¥ The CAISO hopes to attract the following quantities:
  - 400 MW of non-spin
  - 400 MW of replacement reserves
  - 1,000 MW of supplemental energy
- ¥ Potential benefits:
  - Expanding number of bidders into the ancillary service markets
  - Making it possible for smaller loads to participate

## 4. CAISO's Emergency Demand Relief Program

- ¥ Would provide additional loads willing to reduce consumption
- ¥ Envisioned by the CAISO as a trial program
- ¥ Details are still being worked-out
- ¥ CAISO expected to hold an auction within the month
  - Loads would bid into this auction
  - Target amount of 1,000 MW
- ¥ Potential Benefits:
  - Provides the CAISO with additional tools to manage the grid
  - Provides data on willingness of load to curtail

# 5. Pacific Gas and Electric and Southern California Edison's Demand Reduction Programs in CalPX

¥ Would provide new rate schedules:

- Customers could elect not to consume when CalPX price is high
- Customers would be paid a price approaching the CalPX price if they choose not to consume
- By not consuming, the CalPX price would be reduced; some of these savings would go to consumers who elect not to consume; the remainder to the rest of the utility's customers

¥ Potential Benefits:

- Reduced loads
- Reduced energy prices

# Efforts Underway in California

- Promote market-based approaches to ensure reliability
- Enable customers to participate in competitive markets
- Remove barriers to distributed generation
- Support mandatory reliability standards for bulk-power systems
- Support reporting and sharing of information on best practices
- Prepare emergency procedures for low-probability, high-impact events
- Use best reliability practices at state facilities to show leadership
- Conduct reliability-related research needed in the restructured industry
- Enable regional solutions to the siting of generation and transmission
- Promote public awareness of reliability issues
- Monitor and assess vulnerabilities of electric systems
- Encourage energy efficiency to enhance reliability

The above list of recommendations is consistent with the Final Report of the U.S. Department of Energy's Power Outage Study Team (received by Secretary Richardson on March 13, 2000).



# Concluding Comments

- ¥ Each of these programs will enhance market efficiency or system reliability
  - Potentially, including many additional players, especially from the demand-side, in the markets
  - Such expansions are important, as noted in many assessments of the California markets
- ¥ We need to move quickly to put these programs in place for the summer of 2000
- ¥ And, whenever possible, we recommend that system reliability be achieved through the use of markets.
- ¥ The EOB will continue to work with the administration, agencies, and the industry in preparing for Summer 2000